

**Problem Set 4**

1. Griffiths 3.33
2. Griffiths 4.4
3. Griffiths 4.6
4. Griffiths 4.10
5. Griffiths 4.13. [*Hint:* Consider the uniformly polarized cylinder to be the superposition of two cylinders that are uniformly charged throughout their volume, one positive, the other negative, with a small relative offset. Take the limit as the offset vanishes while the product of offset and charge remains finite.]
6. Griffiths 4.15
7. Griffiths 4.16
8. Griffiths 4.18